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Présentation des résultats d'une étude comparative entre trois programmes de français langue seconde: le programme régulier F.S.L. (French second language), un programme d'immersion précoce (début du primaire) et un programme d'immersion en septième année. Il s'agit de comparer les habiletés en français, en anglais et en mathématiques d'élèves qui ont commencé à suivre un programme d'immersion en 1968-1969 alors qu'ils étaient en première année ainsi que d'élèves inscrits dans des classes d'immersion en septième année en 1974-1975 avec les résultats de groupes témoins francophone et anglophone.

Au total, 306 élèves de la région de Montréal ont participé à l'enquête: 42 élèves du programme d'immersion précoce, 139 élèves du programme d'immersion de septième année, 71 élèves du groupe témoin anglophone et 54 du groupe témoin francophone. Les tests suivants ont été administrés en mai 1975: trois sections du "California achievement test" et un exercice de composition anglaise, les Tests de rendement en français et en mathématiques de la CECM, des tests de lecture, de compréhension orale et de production orale en français. Les résultats aux tests de sixième année du ministère de l'Education (janvier 1974) sont pris en considération.

Alors que les divers groupes d'immersion ne manifestent aucun retard en anglais par rapport au groupe témoin anglophone, ils ont toutefois accompli des progrès nettement supérieurs en ce qui concerne la maîtrise du français, encore qu'ils n'aient rejoint le niveau du groupe témoin francophone que pour certains tests. Parmi les groupes d'immersion, les classes d'immersion précoce et celles de septième année sises dans des écoles où ne se donnent que des cours d'immersion présentent des résultats en français nettement supérieurs à ceux des classes d'immersion de septième année situées dans des écoles où le programme d'enseignement régulier en anglais est également offert.

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A Comparison of the Early French Immersion, Grade 7 French Immersion and F.S.L. Programs at the Grade 7 Level: A Preliminary Report.

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A report submitted by the Curriculum Department
to
The Protestant School Board of Greater Montreal
November 1975

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The present report presents the results of a comparative evaluation of three different types of second language programs in the P.S.B.G.M. These three programs are 1) a regular French-as-a-second language (FSL) program; 2) an early French immersion program; and 3) a grade 7 French immersion program.

In the regular FSL program instruction in the French language is offered for 30 minutes and 45 minutes a day at the elementary and secondary school levels, respectively. Instruction in French begins in Kindergarten.

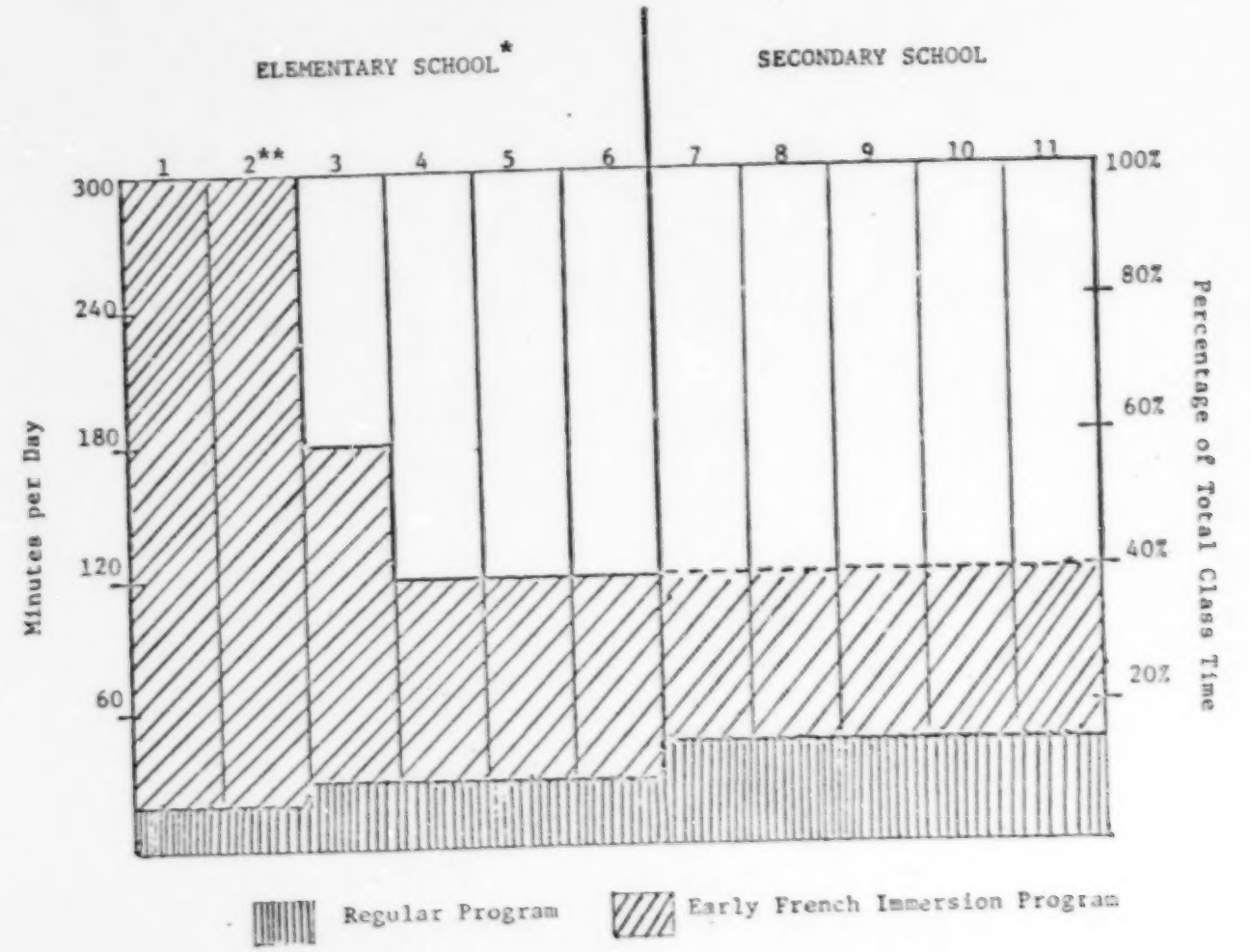
In the early French immersion school program, 100% of course instruction in grades Kindergarten to 2, inclusive, is given in French. English language instruction is introduced in grade 3, or in the second half of grade 2 in some cases, and increased to 40% in grade 4 and to 60% in grades 5 and 6. In secondary school, commencing in grade 7, students from the early immersion program may choose to take up to 40% of their curriculum in French.

In the grade 7 immersion program, the students follow a regular FSL program in elementary school, K to 6, and an 85% French program in grade 7; the remaining 15% of the curriculum in grade 7 is devoted to an English language arts course. A schematic presentation of these different programs is presented in Figures 1 and 2.

The early immersion program has existed since September 1968. The group of students who entered the program in 1968, entered at the Kindergarten level and received all class instruction in K and I in French. A second group of youngsters entered the early immersion program the following September, 1969, at the grade I level, they had taken English kindergarten. For this second group of students 50% of class instruction was in French and 50% was in English. The experimental Early Immersion group in the present evaluation was comprised of these two different groups of youngsters. Since 1969 most youngsters enter the early immersion program at the Kindergarten level. In 1974-75, these two "pilot" early immersion groups were in grade 7.

Figure 1

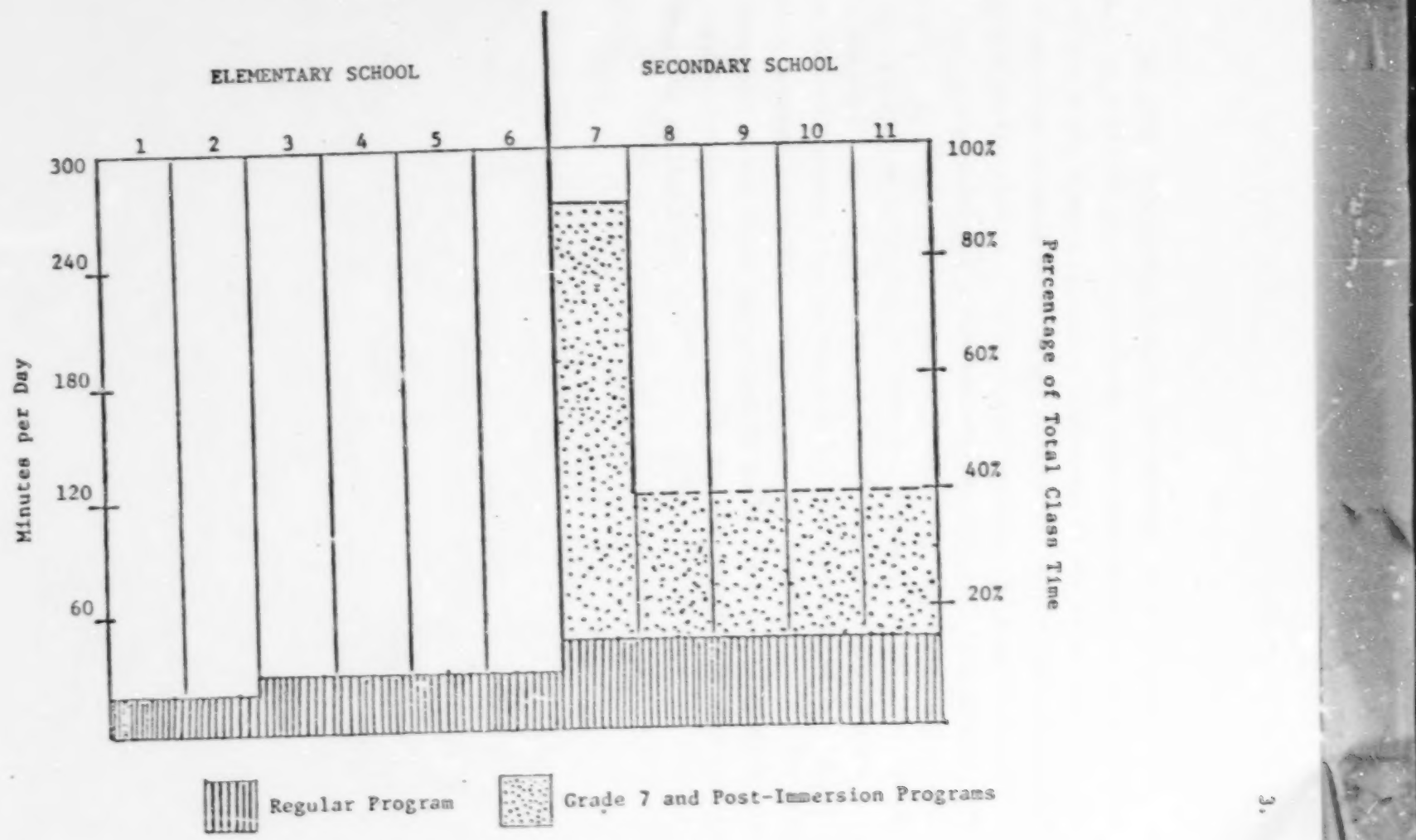
Regular and Early French Immersion Program
- approximate amount of time/day of French instruction -



* In Kindergarten of the French Immersion Program, the Program is 1/2 day and completely in French.
** There may be up to 20% of instruction in English in the French Immersion Program.

Figure 2

Regular, Grade 7, and Post-Immersion Programs
- approximate amounts of time/day of French Instruction -



The grade 7 immersion program has existed since September 1969 and, thus, the 1974-75 grade 7 immersion class represents the sixth generation. This was the first time that a comparison of the early immersion and grade 7 immersion programs could be made. However, caution must be exercised in interpreting the results of this evaluation since the program followed by the pilot early immersion groups was experimental and, consequently, was characterized by peculiarities which have since been worked out and do not, therefore, typify the current early immersion program. As mentioned above, some of the pupils in the pilot group had followed the early immersion program with 100% instruction in French while some of them had followed a 50% French program during the primary grades. In addition, one of the pilot early immersion groups began the program in grade I and not in kindergarten as is customarily done now. Consequently, the results of this report should be regarded as preliminary.

THE SAMPLE

Five groups of students participated:

1) Early Immersion Group: this group consists of those students who began the French immersion program in 1968 in grade I and who in 1974-75 were in grade 7 following a 40% French program. Some of the pupils in this group had followed the 100% French primary program and some had followed a 50% French primary school program;

2) French Immersion Centre Group: this group consists of students who had followed an FSL program in K to 6 and the 85% French immersion program in grade 7. This group took French immersion in schools devoted exclusively to the grade 7 French immersion program;

3) French Immersion Wing Group: this group is the same as the Centre group except that they have taken French immersion in schools which also offer the regular English program at different grade levels;

4) English Control: this group consists of students who have followed the regular English program with FSL in elementary and secondary school; and

5) French Control: this group consists of two classes of native-French speaking students from a French school under the jurisdiction of La Commission des Ecoles Catholiques de Montréal (C.E.C.M.). The French school is located in a predominantly middle class neighborhood.

A list of the specific schools involved is presented in Table IA.

TABLE I

(A)

LIST OF SCHOOLS

Centre	Wing	Early Immersion	English Control	French Control
Royal Vale Elmgrove	Dorval Gardens Riverdale	Westmount H.S.	Westmount H.S. Riverdale Westminster	Anonymous

(B)

SUMMARY OF AVERAGE I.Q. SCORES

	Centre	Wing	English Control	Early Immersion
Above Average	127.2	124.4	125.9	129.5
Average	107.5	107.4	107.9	107.9
Below Average	87.3	86.9	87.1	N.A.[1]

(C)

SAMPLE SIZES

I.Q.	SEX	Centre	Wing	English Control	Early Immersion	French Control
Above	boys	12	12	12	13	
	girls	12	12	12	11	
Average	boys	13	12	12	5	27
	girls	12	12	11	13	27
Below	boys	12	9	12	N.A.[1]	
	girls	9	12	12		

1. Not Available

Approximately half of the students in each group were male and half were female.

The students in the Centre group, the Wing group and the English Control group were classified as either average in I.Q. (96-115) above average (116 or above), or below average (95 and below). Because the Early Immersion group was a relatively select group it was possible to categorize them only as either average or above average in I.Q. I.Q. was based on the students performance on the Canadian Lorge Thorndike Intelligence Test (1967) which they had written in either grade 6, 1973-74, or in grade 7, 1974-75. A summary of the average I.Q. scores is presented in Table IB.

I.Q. information was not available for the French Control group.. However, we were assured by the principal of the school and the teachers that the students were of average academic and intellectual ability. Their performances on the Tests de Rendement en Français and en Mathématiques in grade 5 and 6 confirm this subjective evaluation - - grade 5: Français - - 5.46 stanine, Mathématiques - - 5.34 stanine; grade 6: Français - - 5.15 stanine, Mathématiques - - 5.68 (a stanine of 5 is average).

In the four groups where I.Q.classifications could be made, there was an approximately equal number of students from each I.Q. category.

As much as possible, schools were matched according to socio-economic characteristics. See Table IC for a summary of the sample sizes.

TEST BATTERY

The evaluation was concerned with two major areas:

1) English language skills; and

2) French language acquisition.

In addition, we compared the performances of the four English-speaking groups of students on the Department of Education Grade 6 Tests. These will be discussed more fully later.

The four English-speaking groups, groups 1 to 4, took both the English and the French language tests; the French Control group took only the French language tests.

All testing was carried out in May 1975.

Each test will be discussed briefly before the results are presented.

ENGLISH LANGUAGE TESTS

1) Reading

The Reading comprehension subtest of the California Achievement Test (C.A.T.; 1970) was used. This is a standardized timed group test. Maximum score is 45. Raw scores were analyzed statistically.

2) Vocabulary

The Vocabulary subtest of the C.A.T. was used. Again, raw scores were analyzed statistically. Maximum score is 40.

3) Spelling

The Spelling subtest of the C.A.T., as above, was used. Maximum score is 32.

4) Writing

Each student was asked to write a composition by completing one of three topic sentences presented to him. The students had 45 minutes to complete their composition.

Afterwards, each composition was graded by four grade 7 English teachers from the P.S.B.G.M. Half of the compositions were graded by two of the teachers and the other half were graded by the other two teachers. Thus, each composition was scored by two teachers. The compositions were presented randomly to the markers; there were no identifying marks on the compositions so that the markers did not know the author's sex, school group or I.Q. grouping.

Each composition was evaluated in terms of nine different dimensions: 1) spelling, 2) punctuation, 3) length, 4) sentence accuracy, 5) sentence complexity and variety, 6) organization, 7) vocabulary, 8) originality and 9) overall.

The ratings for dimensions 1, 4, 5, 6, 8, and 9 ranged from 5 indicating "excellent performance for a grade 7 student" to 1 indicating "unacceptable performance for a grade 7 student." A rating of 3 indicates satisfactory performance for a grade 7 student. The ratings from both markers were combined to form an average rating for each dimension. The ratings on these 6 dimensions were analyzed separately.

For the punctuation and length dimensions, the student was given a rating of "appropriate" or "inappropriate". For vocabulary, the student was given a rating of "superior", "average", or "below average". There were too few response categories to warrant formal statistical analyses of these dimensions. Instead, percentage frequency scores for each rating category were calculated.

FRENCH LANGUAGE TESTS

1) Reading

A modified version of the Test de Lecture "California" (Cycle inférieur and 6ième année combined) was used. This is a standardized group test designed for use with native-French speaking students. It consists of six subtests - - subtests 1 to 4 assess vocabulary skills as they relate to mathematical, scientific, social and general terminology; subtests 5 and 6 assess reading comprehension skills as required in understanding of written directions and connected prose. For the sake of this evaluation, subtests 1 to 4 were combined to form one score, Vocabulaire, with a maximum possible score of 90, and subtests 5 and 6 were combined to form another score, Compréhension, with a maximum possible score of 30.

2) Test de Rendement en Français (Niveau 5)

This is a group test designed and standardized by the C.E.C.M. The grade 5 level was used instead of the grade 7 level since pre-testing had shown that the latter version was too difficult for the non-immersion group. This test has a number of multiple - choice items which assess the following types of skills: spelling, synonyms, antonyms, the function of words in sentences, gender and verb tense. For the data analysis, raw scores were converted to stanine equivalents which were based on the grade 5 population of the C.E.C.M. as of November 1974.

3) Test de Rendement en Mathématiques (Niveau 7)

Again, this test was designed and standardized, in November 1974, by the C.E.C.M. Not all items in this test are appropriate for students in the P.S.B.G.M. because of differences in curriculum between the P.S.B.G.M. and the C.E.C.M. Thus, the students performance on this test is probably and underestimate of their mathematical skills. Raw scores were converted to stanire equivalents for the data analysis.

4) Compréhension Aurale

The students had to answer 14 multiple choice questions based on a passage from the book Le Canada Sans Passeport, by Eugene Cloutier (1967). This was a standardized, group test administered by means of a tape recorder.

5) Production Orale

A number of students were interviewed individually by a native-French speaking person. In the first part of the interview, the student was asked to describe a cartoon picture. Subsequently, in the second part, he/she was engaged in a short conversation with the interviewer on topics related to the cartoon or the student's school experiences. The interviews were tape recorded for later analysis.

Because the analysis of oral production skills is very lengthy not all students who had taken the other French tests were evaluated in this part of the assessment. Instead, a sub-sample of the original sample was selected for evaluation. Table 2 presents the actual sample sizes. The sub-samples were selected so that, as much as possible, there would be an equal number of boys and girls in each School Group. As well, for the anglophone groups, the sub-samples were selected so that there would be an equal number of students in the below average, average, and above average categories. This was not possible for the French Control Group since I.Q. scores were not available.

The sample size for the Below Average, English Control group is low owing to testing difficulties in the school from which we had selected most of our below average students. This is unfortunate because it weakens our comparison of I.Q. groups in this part of the evaluation.

TABLE 2

SAMPLE SIZES FOR ORAL PRODUCTION EVALUATION

	Above Average		Average		Below Average	
	Male	Female	Male	Female	Male	Female
Centre	5	5	6	5	5	2
Wing	6	6	6	6	6	5
Early Immersion	6	7	4	7		
English Control	7	6	6	6	1	3
French Control			14	15		

Each student's speech sample was evaluated by two raters, working independently, on five different dimensions: aurale compréhension, prononciation, grammaire, vocabulaire and communication. The communication dimension was intended to assess the student's willingness to speak French and his/her comfort while doing so. The ratings ranged from a maximum of 5, indicating excellent or native-like skill, to a minimum of 1, indicating very poor skill. The raters were native-French speaking Canadians. They were not necessarily trained in linguistics. It was felt desirable to employ untrained native-French speakers since in most day-to-day situations when we speak a second language we are evaluated by non-trained people. The ratings of both raters were combined to form an average score for each dimension.

Department of Education Grade 6 Tests

The Department of Education grade 6 tests are a set of tests which are administered in December or January of each year to the entire grade 6 student population in Québec. The set consists of the following four subtests: English (language of instruction), Modern Mathematics, Mental Ability, and French (second language). A brief description of each will be presented.

The general aim of the English test is "an assessment of the development by the student of certain basic skills which are objectives of the English program in the elementary school". In particular, the major emphasis of the test is on skills related to reading development - - word meaning, vocabulary and comprehension. Other parts of the test examine auditory comprehension, punctuation, reference skills and usage.

The Mathematics test is intended to provide "an estimate of the students acquisition of the knowledge and skills which the program in mathematics is intended to provide". The major emphases are on "natural numbers", "sets and relations", and "geometry and measurement".

The Mental Ability test is intended to measure "the learning capacity of each student", his "reasoning ability" and his ability "to make abstractions". The test is designed to be as independent as possible of previous learning and,

thus, unrelated to the curriculum or to a particular program. There are three subtests in it: verbal, figural and symbolic.

The French (second language) test "measures, for the most part, the students ability to discriminate between sounds in French, and to understand spoken French of appropriate difficulty. A small portion of the test examines the ability to read and understand". Speaking skills are not evaluted.

The students write all four tests and are assigned a centile score on each test. The 1974-75 grade 7 students in the P.S.B.G.M. wrote these tests in January 1974.

Centile scores using regional, as opposed to provincial, norms were analyzed statistically.

Results

ENGLISH LANGUAGE TESTS

Because the 1974-75 Early Immersion class was a select group with only average and above average students, two sets of statistical analyses have been performed on the data from the English Language tests. One analysis (Analysis IE) includes the Early Immersion group along with the Centre, Wing and English Control groups. However, the below average students from these latter three groups have been excluded in order that all four groups be comparable on I.Q. Therefore, the main variables in Analysis IE were School Group (Immersion Centre, Immersion Wing, English Control, Early Immersion), I.Q. (above average, average) and Sex (male, female).

The second set of analyses (Analysis 2E) excluded the Early Immersion group, but included all 3 I.Q. sub-groups from the remaining school groups. The reason for doing the second analyses was to investigate the progress of the below average students in the French immersion program. The main variables for Analysis 2E were School Group (Immersion Centre, Immersion Wing, English Control), I.Q. (above average, average, below average) and Sex

(male, female).

Separate analyses of variance (unweighted means solution for unequal n) were performed on the three subtests of the C.A.T. (vocabulary, reading and spelling) and on six of the scales from the English writing evaluation (spelling, sentence accuracy, sentence complexity and variety, organization, originality and overall). A summary of the results from Analysis IE, including the Early Immersion group, is presented in Table 3, and a summary of the results from Analysis 2E, excluding the Early Immersion group, is presented in Table 4.

ANALYSIS IE

There were no statistically significant differences among the 4 school groups on any of the 3 subtests of the C.A.T. - - vocabulary, reading and spelling. The Early Immersion group and the one-year grade 7 immersion groups scored at the same level as the English Control group. In terms of percentile norms, the average scores of the 4 groups combined are vocabulary - - 73%; reading - - 63%; and spelling 58% (these percentile scores are based on an American sample). As expected, the above average I.Q. groups scored significantly higher than the average I.Q. group on all three subtests.

There were no statistically significant differences among the school groups on the 6 scales of the writing evaluation that were analyzed statistically - - spelling, sentence accuracy, sentence complexity, organization, originality and overall.

On punctuation, the Immersion Centre, Immersion Wing and English Control groups all scored comparably (percentage frequency of appropriate ratings = 75%) while the Early Immersion group tended to be rated higher (percentage frequency of appropriate ratings = 85%). On length, the Early Immersion and Wing group scored comparably to one another (Appropriate ratings: Early Immersion = 78.6%, Wing = 80.4%) and better than either the English Control group (70.3%) or the Centre group (65.7%). On vocabulary, the English Control group (17.1%)

../.

TABLE 3

SUMMARY OF ENGLISH LANGUAGE TEST RESULTS

- including early immersion sample; eliminating below average I.Q. sub-samples -

	BY SCHOOL GROUP						BY I.Q.			
METROPOLITAN ACH. TESTS:	IMMERSION CENTRES	IMMERSION WINGS	ENGLISH CONTROL	EARLY IMMERSION	F RATIO	df	ABOVE AVERAGE	AVERAGE	F RATIO	df
Vocabulary	31.07	31.06	31.22	31.67	.14	3,154	32.34	30.17	8.01**	1,154
Reading	27.11	28.33	28.78	25.91	1.75	3,154	29.75	25.32	18.19***	1,154
Spelling	21.73	22.75	22.55	21.08	1.01	3,154	23.47	20.59	14.18***	1,154
WRITING SKILLS:										
Spelling	3.17	3.24	3.31	2.95	1.07	3,149	3.42	2.91	12.03***	1,149
Sentence Accuracy	3.26	3.17	3.02	3.12	.56	3,149	3.36	2.93	10.08**	1,149
Sentence Complexity	3.12	3.06	2.95	3.04	.32	3,149	3.27	2.81	14.35***	1,149
Organization	3.25	3.20	2.90	3.12	1.63	3,149	3.31	2.93	10.27**	1,149
Originality	2.32	2.16	2.13	2.12	.80	3,149	2.39	1.98	15.05***	1,149
Overall	3.26	3.13	2.91	3.10	1.81	3,149	3.29	2.91	12.09**	1,149
Punctuation: appropriate	76.3%	75.0%	75.0%	85.7%			82.2%	73.2%		
in appropriate	23.7%	25.0%	25.0%	14.3%			17.8%	26.8%		
Length: appropriate	65.7%	80.4%	70.3%	78.6%			77.6%	70.4%		
in appropriate	34.3%	16.6%	29.7%	21.4%			22.4%	29.6%		
Vocabulary: superior	13.1%	9.8%	17.1%	14.3%			18.4%	7.1%		
average	81.6%	88.1%	78.2%	79.8%			78.7%	86.6%		
below average	5.3%	2.1%	4.7%	5.9%			2.9%	6.3%		

** $p<.01$; *** $p<.001$.

received the highest percentage of "superior" ratings followed by the Early Immersion group (14.3%), the Immersion Centre group (13.1%) and finally the Immersion Wing group (19.8%).

As expected, the above average students were rated higher than the average students on all scales of the writing evaluation.

Thus, the results from the writing evaluation indicate 1) the Early Immersion group was rated at least as well as the other groups, Immersion and English Control; 2) in some cases, the Early Immersion group tended to be rated higher than some of the other groups; 3) the two one-year immersion groups, Centre and Wing, were rated as high as the English Control; and 4) above average students score higher than average students.

ANALYSIS 2E

The results from Analysis 2E (excluding the Early Immersion group were the same as those from Analysis IE except that: 1) the English Control students ($\bar{X}$=22.44) scored significantly lower than the two immersion groups (Centre = 24.29; Wing = 25.65) on the C.A.T. reading subtest; and 2) the English Control students ($\bar{X}$=2.74) scored significantly lower than the Immersion Centre students ($\bar{X}$=3.05) on the overall rating of the English writing evaluation. The mean scores here are different from the previous means because the below average students have been included in these calculations.

On the punctuation and vocabulary scales of the writing evaluation, the Immersion Centre, Immersion Wing and English Control groups were rated comparably. On length, the Immersion Wing group were rated higher than both the Immersion Centre group and the English Control group who were rated at the same level.

TABLE 4

SUMMARY OF ENGLISH LANGUAGE TEST RESULTS

- comparing grade 7 immersion samples with English control samples at 3 I.Q. levels -

	BY SCHOOL GROUP					BY I.Q.				
METROPOLITAN ACH. TESTS:	IMMERSION CENTRES	IMMERSION WINGS	ENGLISH CONTROLS	F RATIO	df	ABOVE AVERAGE	AVERAGE	BELOW AVERAGE	F RATIO	df
Vocabulary	29.56	28.62	28.26	1.01	2,169	31.83	30.70	23.90	4..52***	2,169
Reading	24.29	25.65	22.44	3.78*	2,169	28.76	25.48	18.14	43.19***	2,169
Spelling	20.37	20.15	19.24	.76	2,168	23.15	20.56	16.05	27.14***	2,168
WRITING SKILLS:										
Spelling	2.98	3.05	2.95	.16	2,171	3.31	2.93	2.74	4.75**	2,171
Sentence accuracy	3.02	2.83	2.80	1.36	2,171	3.25	3.13	2.28	25.85***	2,171
Sentence complexity	2.89	2.75	2.71	.96	2,171	3.21	2.94	2.20	28.62***	2,171
Organization	3.06	2.91	2.79	2.11	2,171	3.24	3.15	2.37	25.60***	2,171
Originality	2.15	2.02	1.92	2.29	2,171	2.30	2.10	1.69	15.88***	2,171
Overall	3.05	2.84	2.74	3.36*	2,171	3.22	3.11	2.30	32.75***	2,171
Punctuation: appropriate	64.5%	61.0%	61.5%			75.8%	75.0%	36.4%		
in appropriate	35.5%	39.0%	38.5%			24.2%	25.0%	63.6%		
Length: appropriate	58.2%	72.1%	52.9%			72.5%	73.2%	40.7%		
in appropriate	41.8%	27.9%	47.1%			27.4%	26.8%	59.3%		
Vocabulary: superior	10.9%	6.6%	10.6%			16.1%	9.3%	1.7%		
average	81.8%	83.1%	72.1%			79.0%	87.0%	72.0%		
below average	7.3%	10.3%	17.3%			4.9%	3.7%	26.3%		

* $p < .05$; ** $p < .01$: *** $p < .003$.

Again, there were significant differences among the I.Q.groups on all of the tests such that in every case the above average students scored higher than the average students, who scored higher than the below average students.

SUMMARY

The results of this year's testing of two one-year grade 7 immersion groups, an early immersion group and an English Control group indicate 1) the Early Immersion group has not suffered any detrimental effects to their English language development; and 2) the one-year grade 7 immersion groups have not suffered a loss in English language skills.

FRENCH LANGUAGE TESTS

There were a number of different sets of statistical analyses of the results from the French language tests. In Analyses IF, the main variables were School Group (Centre, Wing, Early Immersion, English), I.Q. (above average, average) and Sex (male, female). These analyses give us an indication of the relative performances of the anglophone students in the different French language programs. In addition, these analyses give us an indication of the relative performances of average and above average students in the different language programs. These results are summarized in Table 5.

In order to compare the French language skills of the anglophone students to the French language skills of francophone students Analysis 2F was carried out. The main variables in these analyses were School Group (Centre, Wing, Early Immersion, English Control, French Control) and Sex (male, female). I.Q. could not be included as a variable because no I.Q.information was available for the French Control students. When interpreting the results of these analyses, it must be kept in mind that the different school groups are not completely comparable with regard to I.Q. level - - Centre, Wing and English Control groups include samples of students from all three I.Q. levels; the Early Immersion group includes only above average and average students; and the French Control group can be characterized simply as an average group. The results of these analyses are summarized in Table 6.

In order to assess the French language proficiency of below average students in French immersion, Analysis 3F was carried out. The main variables in these analyses were School Group (Centre, Wing, English Control), Sex (male, female) and I.Q. (above average, average, below average). The Early Immersion and French Control groups could not be included in these analyses because we were unable to isolate below average samples in these two groups. A summary of these results is presented in Table 7.

In each set of analyses separate analyses of variance (unweighted means solution for unequal n) were performed on the scores from the following IO tests: Test de Lecture (vocabulaire and compréhension), Tests de Rendement (en Français and en Mathématiques), compréhension aurale, and production orale (compréhension aurale, prononciation, grammaire, vocabulaire, communication). F ratios and their associated P values are presented along with each summary table.

ANALYSIS IF

See Table 5 for a summary of these results. There were significant differences among the School Groups on both subtests of the Test de Lecture - vocabulaire and compréhension. In both subtests, the English Control group (Vocab. $\bar{X}$= 43.31; Comp. $\bar{X}$= 15.68) scored significantly lower than the Centre group (Vocab. $\bar{X}$= 55.43; Comp. $\bar{X}$= 22.43), the Wing group (Vocab. $\bar{X}$= 51.22; Comp. $\bar{X}$= 21.11) and the Early Immersion group (Vocab. $\bar{X}$= 58.32; Comp. $\bar{X}$= 21.90)[1]. On the vocabulaire subtest, the Wing group scored significantly lower than the Early Immersion group. Otherwise there were no significant differences on vocabulaire or on compréhension. Most interestingly, there were no significant differences between the Early Immersion group and the Centre group on either subtest.

1. These comparisons are based on Newman Keuls tests. See Appendix A for a graphic presentation of these results.

TABLE 5

ANALYSIS IF

SUMMARY OF FRENCH LANGUAGE TEST RESULTS

- INCLUDING EARLY IMMERSION SAMPLE -

	BY SCHOOL GROUP						BY I.Q.			
	IMMERSION CENTRE	IMMERSION WINGS	EARLY IMMERSION	ENGLISH CONTROL	F RATIO	df	ABOVE AVERAGE	AVERAGE	F RATIO	df
TEST DE LECTURE:										
a) Vocabulaire	55.43	51.22	58.32	43.31	28.46***	3,159	54.27	49.86	12.97***	1,159
b) Compréhension	22.43	21.11	21.90	15.68	39.85***	3,159	21.36	19.20	19.08***	1,159
Test de Rend.Français (V)	4.96	4.30	5.86	3.54	21.81***	3,161	5.15	4.18	21.07***	1,161
Test de Rend.Math (VII)	6.20	5.71	6.27	4.24	23.88***	3,161	6.05	5.16	20.94***	1,161
Compréhension aurale	7.95	7.72	8.85	6.06	15.92***	3,159	7.88	7.41	2.55	1,159
PRODUCTION ORALE:										
Compréhension aurale	4.73	4.44	4.57	2.80	28.90***	3,79	4.10	4.17	.14	1,79
Prononciation	3.75	3.63	3.79	2.38	22.24***	3,79	3.39	3.39	.001	1,79
Grammaire	3.50	3.06	3.65	1.93	26.83***	3,79	3.04	3.03	.002	1,79
Vocabulaire	3.59	3.31	3.76	1.88	28.02***	3,79	3.10	3.17	.09	1,79
Communication	4.23	3.94	4.18	2.66	22.84***	3,79	3.83	3.68	.96	1,79

*** $p < .001$

There were significant differences among the school groups on both Tests de Rendement - - en Français and en Mathématiques. Again, post hoc Newman-Keuls analyses indicated that the English Control group scored significantly lower than all other groups. On the Test de Rendement en Français, the Early Immersion group scored significantly higher than both one-year immersion groups, Centre and Wing; and the Centre group scored significantly higher than the Wing group.

On the Test de Rendement en Mathématiques, the English Control group scored significantly lower than the other three groups. The only other significant difference was between the Early Immersion group and the Wing group, in favor of the former. There was no significant difference between the Early Immersion group and the Centre group on the test en Mathématiques.

In terms of stanine scores, the students' performance on these tests was very impressive. All immersion groups scored in the average to somewhat above average stanine range.

On the group test of compréhension aurale, the English Control group scored significantly lower than all three other groups. There were no other significant differences among the groups on this test. On the test of production orale, the English Control group was rated significantly lower than all three other groups on all 5 scales - - compréhension, prononciation, grammaire, vocabulaire and communication. The only other, statistically significant differences were on the grammaire scale - - the Early Immersion group and the Centre group scored higher than the Wing group. There were no significant differences between the Early Immersion group and the Centre group or the Wing group on any of the other scales.

In terms of I.Q. level, we found that the above average students scored higher than the average students on the tests of academic language skills - - reading, Tests de Rendement en Français and en Mathématiques.

There were no significant differences between the I.Q. groups on the tests of interpersonal communication skills - listening comprehensio.., and oral production. A similar differential stratification of test performance by I.Q. was noted in last year's grades 4, 7, and 11 evaluations (Genesee, Morin & Allister, 1974 a,b; Genesee Allister & Morin, 1974).

SUMMARY

1) The English Control students scored significantly lower than the three immersion groups on all of the French tests.

2) The Early Immersion group scored significantly higher than the Wing group on some of the French tests.

3) There were no significant differences between the Early Immersion group and the Centre group on any of the tests except the Test de Rendement en Français.

4) There were no differences between the above average and average students on tests of interpersonal communication skills whereas there were on the tests of academic language skills.

ANALYSIS 2F

A summary of Analysis 2F is presented in Table 6. In this section, we will discuss only the differences between the French Control group and the 4 anglophone groups; we have already discussed the differences among the anglophone groups in Analysis IF. For a graphic presentation of group comparisons see Appendix B.

On the vocabulaire subtest of the Test de Lecture, the French Control group ($\bar{X}$=52.68) scored significantly higher than the English Control group ($\bar{X}$=35.31) and the Wing group ($\bar{X}$=42.27), but scored at the same level as the Centre group ($\bar{X}$=47.36) and the Early Immersion group ($\bar{X}$=54.24).

TABLE 6

ANALYSIS 2F

SUMMARY OF FRENCH LANGUAGE TEST RESULTS

- Including French Control Sample -

	Immersion[1.] Centres	Immersion[1.] Wings	Early[2.] Immersion	English[1.] Control	French Control	F Ratio	df
TEST DE LECTURE:							
Vocabulaire	47.36	42.27	54.24	35.21	52.68	30.82***	4,285
Compréhension	21.19	18.76	22.25	13.89	19.80	30.39***	4,283
Test de Rend.Français (V)	4.52	3.81	6.08	2.99	5.46[3.]	40.95** [5.]	3,230
Test de Rend.Math (VII)	5.72	4.86	6.41	3.92	5.68[4.]	24.71***[5.]	3,230
Compréhension aurale	7.98	7.11	8.97	5.80	9.09	10.52***	4,284
PRODUCTION ORALE:							
Compréhension aurale	4.45	4.28	4.59	2.62	5.00	36.09***	4,137
Prononciation	3.59	3.52	3.78	2.22	5.00	52.48***	4,137
Grammaire	3.38	3.02	3.66	1.86	5.00	80.35***	4,137
Vocabulaire	3.45	3.15	3.74	1.81	5.00	73.95***	4,137
Communication	4.14	3.72	4.21	2.59	5.00	44.95***	4,137

*** $p < .001$

1. Includes above average, average and below average students.
2. Includes above average and average students only.
3. This is the average stanine from the grade 5 level test.
4. This is the average stanine from the grade 6 level test.
5. This statistic is based on only the 4 anglophone groups.

On the compréhension subtest of the Test de Lecture, the French Control group ($\bar{X}$=19.80) scored significantly higher than the English Control group ($\bar{X}$=13.89) and the Wing group ($\bar{X}$=18.76) but not significantly different from the Centre group ($\bar{X}$=21.19) or the Early Immersion group ($\bar{X}$=22.25).

The results of the French Control group on the Test de Rendement en Français (V) and on the Test de Rendement en Mathématiques (VII) were not analyzed statistically with the results from the 4 anglophone groups because different tests were used. Visual inspection of the average stanine results for all 5 groups, however, indicates that the French Control group scored in the average stanine range on both versions of the test, as did the Centre, Wing and Early Immersion groups, with some variation. The English Control group, on the other hand, scored in the below average stanine range.

On the group test of compréhension aurale, the French Control group ($\bar{X}$=9.09) scored significantly higher than both the English Control group ($\bar{X}$=5.80) and the Wing group ($\bar{X}$=7.11), but not significantly higher than the Centre group ($\bar{X}$=7.98) or the Early Immersion group ($\bar{X}$=8.97).

Similarly, on the individual rating of compréhension aurale, the French Control group ($\bar{X}$=5.00) scored significantly higher than the English Control group ($\bar{X}$=2.62) and the Wing group ($\bar{X}$=4.28) but not higher than the Centre group ($\bar{X}$=4.45) or the Early Immersion group ($\bar{X}$=4.59).

On all four remaining subscales of the production orale evaluation (prononciation, grammaire, vocabulaire, and communication) the French Control group scored significantly higher than the other 4 groups.

SUMMARY

1) We found that the French Control group scored consistently higher than the English Control group and the Wing group on all measures used in the evaluation.

2) The French Control group scored significantly higher than the Centre and Early Immersion groups only on four subscales of the oral production evaluation. They did not score higher on the Test de Lecture subtests, on the Tests de Rendement or on the group and individual compréhension aurale ratings.

ANALYSIS 3F

Analysis 3F was carried out in order to assess the influence of I.Q. level on French language acquisition. A summary of Analysis 3F is presented in Table 7. Only the Centre, Wing and English Control groups were included in these analyses because the Early Immersion group included only average and above average students, and there was no I.Q. information on the French Control group. We will discuss only differences among I.Q. groups in this section; for a graphic presentation of these comparisons see Appendix C.

There were significant I.Q. differences on the Test de Lecture, vocabulaire and compréhension subtests. On both subtests, the below average group scored significantly lower than the average group and the above average group. The average group scored significantly lower than the above average group on the compréhension subtest but not on the vocabulaire subtest.

There were significant I.Q. differences on both versions of the Test de Rendement - - en Français and en Mathématiques. On both versions all groups scored significantly differently from another such that the above average students scored highest and the below average students scored lowest.

There were significant I.Q. differences on the group compréhension aurale test. The below average group scored significantly lower than the average and above average groups on this test; the latter two groups scored comparably.

TABLE 7

ANALYSIS 3F

SUMMARY OF FRENCH LANGUAGE TEST RESULTS

- Comparing different I.Q. groups from the Immersion Centres, Wing Schools and English Control Schools -

	Above Average	Average	Below Average	F Ratio	df
TEST DE LECTURE:					
Vocabulaire	51.20	48.77	39.20	43.06***	2,182
Compréhension	20.57	18.91	14.29	51.70***	2,182
Test de Rend.Français (V)	4.59	3.94	2.72	36.08***	2,179
Test de Rend.Math.(VII)	5.82	4.94	3.63	41.78***	2,179
Compréhension aurale	7.34	7.15	6.39	4.85**	2,182
PRODUCTION ORALE:					
Compréhension aurale	3.89	4.08	2.92	7.79***	2,75
Prononciation	3.28	3.27	2.44	4.22**	2,75
Grammaire	2.78	2.91	2.53	1.15	2,75
Vocabulaire	2.89	2.98	2.31	2.51	2,75
Communication	3.62	3.63	2.95	3.13*	2,75

* $p < .05$; ** $p < .01$; *** $p < .001$.

There were significant I.Q. differences among the I.Q. groups on 3 of the 5 scales of the oral production evaluation - - compréhension aurale, prononciation and communication. In all three cases, the below average group scored significantly lower than the average and above average groups. There were no significant differences between the above average and average groups. There were no I.Q. differences on the vocabulaire and grammaire scales.

The finding that the below average students scored less well than other students on some oral production skills is inconsistent with last year's grade 7 results, and with last year's grade 4 and 11 results and with this year's grade 5 results. All of these evaluations found no significant differences among I.Q. groups on the tests assessing oral production skills. The extremely small number of below average students (1 boy, 3 girls) in the English Control group may be a contributing factor to this year's results.

SUMMARY

The results from Analysis 3F indicate that:

1) the below average students scored significantly lower than the average and above average students on all tests in the French language battery except on the vocabulaire and grammaire scales of the oral production test;

2) the average students scored significantly lower than the above average students on the two Tests de Rendement and on the compréhension subtest of the Test de Lecture; and

3) there were no significant differences between the average and above average students on any of the remaining 7 tests.

DEPARTMENT OF EDUCATION GRADE 6 TESTS

Separate analyses of variance were carried out on the following scores: English, French, Mental Ability, and Mathematics. The scores were in centile form based on regional norms. The main variables were School Group (Centre, Wing, English Control, Early Immersion) and I.Q. (above average, average) - - below average students were eliminated from the first three school groups in order to make all 4 groups comparable. See Table 8 for a summary of these results.

TABLE 8

SUMMARY OF DEPARTMENT OF EDUCATION

GRADE 6 TEST RESULTS

TEST	IMMERSION CENTRE	IMMERSION WING	ENGLISH CONTROL	EARLY IMMERSION	F RATIO	df	ABOVE AVERAGE	AVERAGE	F RATIO	df
English	69.38	79.60	61.47	75.80	4.00**	3,139	77.88	65.24	10.15**	1,139
French	51.47	60.12	42.98	86.46	18.27***	3,139	63.53	61.98	.14	1,139
Mental Abilities	65.69	75.61	61.26	76.38	3.70*	3,139	76.82	62.65	3.70*	1,139
Mathematics	67.90	66.85	60.70	74.13	1.78	3,139	74.58	60.21	12.16***	1,139

* $p<.05$; ** $p<.01$; *** $p<.001$.

On the English test, the Wing Group ($\bar{X}$-79.60) and the Early Immersion group ($\bar{X}$-75.80) scored significantly higher than the Centre group ($\bar{X}$-69.38) and the English Control group ($\bar{X}$-61.87). Surprisingly, the English Control group which had had the most exposure to English in school, performed most poorly on this test, whereas the Early Immersion group which had had the least exposure to English in school scored second highest.

On The French test, as expected, the Early Immersion group ($\bar{X}$-86.46) scored highest and the English Control group ($\bar{X}$-42.98) scored lowest; the Centre ($\bar{x}$-61.47) and Wing ($\bar{X}$-60.12) groups scored intermediately. The split between the two grade 7 immersion groups and the English Control group is interesting in that this test had been written in grade 6, before the immersion groups had been exposed to the grade 7 program. These results suggest that students who are better in French in the elementary grades are more likely to enrol in the grade 7 French immersion program.

On the Mental Ability test, there were also between-group differences - - the Early Immersion ($\bar{X}$-76.38) and the Wing group ($\bar{X}$-75.61) scored higher than both the English Control group ($\bar{X}$-61.26) and the Centre group ($\bar{X}$-65.69). The fact that all 4 groups did not score at the same level on this test despite the fact that they were equated on full-scale I.Q. (Lorge-Thorndike) suggests that these two tests are measuring different things. Nevertheless, it is apparent from these results that this Early Immersion sample had not been hampered in their "mental development" as of grade 6.

Finally, on Mathematics, there were no significant differences among the groups. This suggests that the Early Immersion group was learning the prescribed mathematics material, at least as defined by the Department of Education in Québec, as well as the other groups who had received mathematics instruction in English.

It is interesting to note that the above average students scored higher than the average students on all of the tests except French. This latter finding offers additional support for the notion, expressed in previous reports, that I.Q. may not be the only significant determinant of successful second language learning.

SUMMARY

The results from these tests, administered in grade 6, suggest that in 1974-75 :

1) students in the Early Immersion program were generally achieving at the same level as their peers in the English program on these tests;

2) the French immersion experience in the elementary grades had given the Early Immersion group a noticeable advantage on the French language test;

3) at the same time, the performance of the Early Immersion group on the English language test was superior to two of the three other groups who had been in the English program;

4) mastery of course material, and in particular mathematics, in the early immersion program was not hampered by instruction in French; and

5) second language acquisition may be influenced by factors other than or in addition to intellectual ones.

SUMMARY AND CONCLUSIONS

The results of this year's evaluation indicate:

1) the Early Immersion group had not fallen behind in their English language skills - - spelling, vocabulary, reading and writing;

2) the two one-year grade 7 immersion groups, Centre and Wing, had not suffered any setbacks to their English language skills;

3) the Early Immersion group scored higher than the Wing group on some of French language tests: Test de Lecture (vocabulaire), the Tests de Rendement, compréhension aurale (group) and grammaire;

4) there was a significant difference between the Early Immersion group and the Centre grade 7 Immersion group on the Test de Rendement en Français, in favour of the Early Immersion group. There were no significant differences between these two groups on the other French language tests;

5) the English Control group scored significantly lower than the 3 immersion groups (Early and grade 7) and the French Control group on all tests in the French language battery;

6) the French Control group scored consistently higher than the Wing group on all French tests;

7) the French Control group scored higher than the Early Immersion and Centre groups on the oral production measures; there were no differences between the French Control group and the Centre and Early Immersion groups on the Test de Lecture, the Tests de Rendement or the tests of compréhension aurale;

8) there were no significant differences between the average and above average students on the tests of interpersonal communication skills in French; they did differ, however, on some of the tests of academic language skills. The below average students scored lower than the average and above average students on all of the French language tests except on vocabulaire and grammaire in oral production; and

9) the performance of the Early Immersion group on the Departmental grade 6 tests was not adversely affected by their early immersion experience; in fact, in some instances (French and English) they scored higher than the other groups.

As mentioned in the introduction, these results should be regarded as preliminary owing to the idiosyncracies of the pilot group. For example, a comparative evaluation of the early immersion and grade 7 immersion programs offered in schools of the South Shore Protestant Regional School Board (Bruck, Lambert & Tucker, 1974), similar to the current evaluation, also tended to find students in the two programs performing at the same level on French language tests - - reading, writing, listening comprehension and speaking. The students in the early immersion sample of the evaluation had been in the pilot programs. However, a further comparison of a follow-up early immersion group with a one-year grade 7 immersion group found different results (Bruck, Tucker & Lambert, 1976, in preparation). The French language test battery in this latter evaluation consisted of the following types of tests: reading, writing, listening comprehension and speaking. These tests were designed to be as real-life or naturalistic as possible. For example, the reading test consisted of a passage from the French language newspaper La Presse. In addition, a number of different measures of each skill were obtained; e.g., reading - - La Presse article and a proof-reading test. The early immersion students scored generally higher than the one-year grade 7 immersion students on listening comprehension, reading and speaking; they scored higher than the grade 7 immersion group on some of the scales of the writing evaluation and at the same level on the other scales.

The authors of these reports suggest a number of possible reasons for the discrepancy between the pilot evaluation and the follow-up evaluation - - over testing of the early immersion group; the transition from a bilingual program in the elementary grades to a "maintenance" program in secondary school with a concomitantly greater emphasis on the development or use of French in a

literary or academic context.

We would also suggest that a comparative evaluation of these programs at the end of grade 7 may reflect the intensity of the respective program with the grade 7 immersion group being tested at the end of an intensive language program (85% French) and the early immersion group being tested after a relatively "dilute" French program (maximum 40% French). A follow-up study of these same groups of students is underway in 1975-76 when they will be in grade 8. This will give us an indication of the performance of both groups at the end of a relatively "dilute" French program, since both will be enrolled in the optional 40% maintenance program.

A replication of the present study at the grade 7 level with a different group of early immersion students is recommended in order to assess the reliability of the results presented in this report. Such a replication could be carried out in 1976-77 when there will be five classes of early immersion students entering grade 7, or in 1977-78, when there will be approximately twelve classes. Students with a wide range of academic skills are included in these classes, unlike the early immersion group which participated in this evaluation.

REFERENCES

Bruck, M, Lambert, W.E., & Tucker, G.R. Assessing Functional Bilingualism within a Bilingual Program: The St.Lambert Project at Grade Eight. Mimeo, Department of Psychology, McGill University, 1974.

Genesee, F., Allister, T., & Morin, S. Evaluation of the 1973-74 Pilot Grade XI French Immersion Class. A report submitted to The Protestant School Board of Greater Montreal, Sept., 1974.

Genesee, F., Morin, S., & Allister, T. Evaluation of the 1973-74 Grade IV French Immersion Class. A report submitted to The Protestant School Board of Greater Montreal, Sept., 1974a.

Genesee, F., Morin., S., & Allister, T. Evaluation of the 1973-74 Grade VII French Immersion Class - - June 1974. A report submitted to The Protestant School Board of Greater Montreal, October, 1974b.

APPENDIX A

SUMMARY OF NEWMAN-KEULS TEST RESULTS

FROM ANALYSIS 1F

TEST DE LECTURE:

a) Vocabulaire:

Centre	Wing	Early Immersion	English Control
55.43	51.22	58.32	43.31

b) Compréhension:

Centre	Wing	Early Immersion	English Control
22.43	21.11	21.90	15.68

TESTS DE RENDEMENT:

a) Français:

Centre	Wing	Early Immersion	English Control
4.96	4.30	5.86	3.54

b) Mathématiques:

Centre	Wing	Early Immersion	English Control
6.20	5.71	6.27	4.24

1. Groups joined by a line differ significantly from one another; example, Test de Lecture (vocabulaire): the English Control group scored significantly lower than the Early Immersion group.

COMPREHFNSION AURALE:

Centre	Wing	Early Immersion	English Control
7.95	7.72	8.85	6.60

PRODUCTION ORALE:

a) Compréhension:

Centre	Wing	Early Immersion	English Control
4.73	4.44	4.57	2.80

b) Prononciation:

Centre	Wing	Early Immersion	English Control
3.75	3.63	3.79	2.38

c) Grammaire:

Centre	Wing	Early Immersion	English Control
3.50	3.06	3.65	1.93

d) Vocabulaire:

Centre	Wing	Early Immersion	English Control
3.59	3.31	3.76	1.88

e) Communication:

Centre	Wing	Early Immersion	English Control
4.23	3.94	4.18	2.66

APPENDIX B

SUMMARY OF NEWMAN-KEULS TEST RESULTS

FOR ANALYSIS 2F

TEST DE LECTURE:

a) Vocabulaire:

Centre	Wing	Early Immersion	English Control	French Control
47.36	42.27	54.24	35.31	52.68

TEST DE LECTURE:

b) Compréhension:

Centre	Wing	Early Immersion	English Control	French Control
21.19	18.76	22.25	13.89	19.80

COMPREHENSION AURALE:

Centre	Wing	Early Immersion	English Control	French Control
7.98	7.11	8.97	5.80	9.09

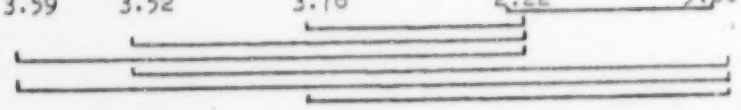
PRODUCTION ORALE:

a) Compréhension aurale:

Centre	Wing	Early Immersion	English Control	French Control
4.45	4.28	4.59	2.62	5.00

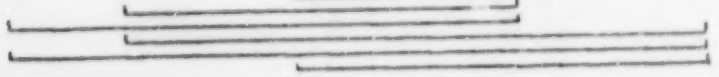
b) Prononciation:

Centre	Wing	Early Immersion	English Control	French Control
3.59	3.52	3.78	2.22	5.00



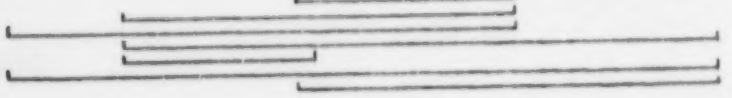
c) Grammaire:

Centre	Wing	Early Immersion	English Control	French Control
3.38	3.02	3.66	1.86	5.00



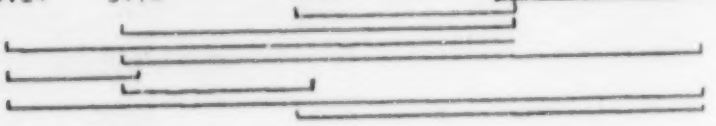
d) Vocabulaire:

Centre	Wing	Early Immersion	English Control	French Control
3.45	3.15	3.74	1.81	5.00



e) Communication:

Centre	Wing	Early Immersion	English Control	French Control
4.14	3.72	4.21	2.59	5.00



APPENDIX C

SUMMARY OF NEWMAN-KEULS TEST RESULTS

FOR ANALYSIS 3F

TEST DE LECTURE:

a) Vocabulaire:

Above Average	Average	Below Average
51.19	48.77	39.20

b) Compréhension:

Above Average	Average	Below Average
20.57	18.91	14.29

TEST DE RENDEMENT:

a) Français:

Above Average	Average	Below Average
4.59	3.94	2.73

b) Mathématiques:

Above Average	Average	Below Average
5.82	4.95	3.63

COMPREHENSION AURALE (GROUP):

Above Average	Average	Below Average
7.34	7.15	6.39

PRODUCTION ORALE:

a) Compréhension aurale:

Above Average	Average	Below Average
3.89	4.08	2.82

b) Prononciation:

Above Average	Average	Below Average
3.28	3.27	2.44

c) Communication:

Above Average	Average	Below Average
3.62	3.63	2.95